

THERMAL SPREADER USING THERMAL CONDUITS

ABSTRACT

A thermal spreading device disposable between electronic circuitry and a heat sink includes a substrate having parallel first and second faces and conduits extending through the substrate between the faces. The substrate material has a first thermal conductivity value in a direction parallel to the faces and a second thermal conductivity value in a direction normal to the faces, with the second thermal conductivity value being less than the first thermal conductivity value. The conduit material has a thermal conductivity value associated with it, with the thermal conductivity value being greater than the second thermal conductivity value of the substrate. One method of fabricating the thermal spreading device includes disposing a molding material radially about the rods and hardening the material. Other methods include press fitting and shrink fitting the rods into a substrate material.

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